

3/1
CRF Processing Date: 3-13-2002
Edited by: M. SPENCER
Verified by: _____ (STIC staff)

Serial Number: 10/003, 196

 Changed a file from non-ASCII to ASCII Changed the margins in cases where the sequence text was "wrapped" down to the next line. Edited a format error in the Current Application Data section, specifically:

ENTERED

 Edited the Current Application Data section with the actual current number. The number inputted by the applicant was the prior application data; or other _____. Added the mandatory heading and subheadings for "Current Application Data". Edited the "Number of Sequences" field. The applicant spelled out a number instead of using an integer. Changed the spelling of a mandatory field (the headings or subheadings), specifically: Corrected the SEQ ID NO when obviously incorrect. The sequence numbers that were edited were: Inserted or corrected a nucleic number at the end of a nucleic line. SEQ ID NO's edited: Corrected subheading placement. All responses must be on the same line as each subheading. If the applicant placed a response below the subheading, this was moved to its appropriate place. Inserted colons after headings/subheadings. Headings edited included: Deleted extra, invalid, headings used by an applicant, specifically: Deleted: non-ASCII "garbage" at the beginning/end of files; secretary initials/filename at end of file; page numbers throughout text; other invalid text, such as _____. Inserted mandatory headings, specifically: Corrected an obvious error in the response, specifically: Edited identifiers where upper case is used but lower case is required, or vice versa. Corrected an error in the Number of Sequences field, specifically: A "Hard Page Break" code was inserted by the applicant. All occurrences had to be deleted. Deleted *ending* stop codon in amino acid sequences and adjusted the "(A)Length:" field accordingly (error due to a PatentIn bug). Sequences corrected: _____ Other:



OIPE

RAW SEQUENCE LISTING
PATENT APPLICATION: US/10/003,496

DATE: 03/13/2002
TIME: 10:30:07

Input Set : A:\PTO_MS.txt
Output Set: N:\CRF3\03132002\J003496.raw

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3 <110> APPLICANT: Maxygen ApS
4     Maxygen Holdings Ltd.
6 <120> TITLE OF INVENTION: Single-Chain Polypeptides
8 <130> FILE REFERENCE: 0218us210
C--> 10 <140> CURRENT APPLICATION NUMBER: US/10/003,496
C--> 10 <141> CURRENT FILING DATE: 2002-01-31
10 <150> PRIOR APPLICATION NUMBER: US 60/245,727
11 <151> PRIOR FILING DATE: 2000-11-02
13 <160> NUMBER OF SEQ ID NOS: 16
15 <170> SOFTWARE: PatentIn version 3.1
17 <210> SEQ ID NO: 1
18 <211> LENGTH: 174
19 <212> TYPE: PRT
20 <213> ORGANISM: Homo sapiens
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28 Cys Leu Glu Gln Val Arg Lys Ile Gln Gly Asp Gly Ala Ala Leu Gln
29           20          25          30
32 Glu Lys Leu Cys Ala Thr Tyr Lys Leu Cys His Pro Glu Glu Leu Val
33           35          40          45
36 Leu Leu Gly His Ser Leu Gly Ile Pro Trp Ala Pro Leu Ser Ser Cys
37           50          55          60
40 Pro Ser Gln Ala Leu Gln Leu Ala Gly Cys Leu Ser Gln Leu His Ser
41 65           . 70           75          80
44 Gly Leu Phe Leu Tyr Gln Gly Leu Leu Gln Ala Leu Glu Gly Ile Ser
45           85          90          95
48 Pro Glu Leu Gly Pro Thr Leu Asp Thr Leu Gln Leu Asp Val Ala Asp
49           100         105         110
52 Phe Ala Thr Thr Ile Trp Gln Gln Met Glu Glu Leu Gly Met Ala Pro
53           115         120         125
56 Ala Leu Gln Pro Thr Gln Gly Ala Met Pro Ala Phe Ala Ser Ala Phe
57           130         135         140
60 Gln Arg Arg Ala Gly Gly Val Leu Val Ala Ser His Leu Gln Ser Phe
61 145           . 150          155          160
64 Leu Glu Val Ser Tyr Arg Val Leu Arg His Leu Ala Gln Pro
65           165         170
68 <210> SEQ ID NO: 2
69 <211> LENGTH: 63
70 <212> TYPE: DNA
71 <213> ORGANISM: Saccharomyces cerevisiae
73 <400> SEQUENCE: 2
74 atgaaattga aaactgttag atctgctgtt ttgtcttc ttgtttgttc tcaagtttg       60

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76 ggt 63
 79 <210> SEQ ID NO: 3
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 81 <212> TYPE: DNA
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 84 <220> FEATURE:
 85 <223> OTHER INFORMATION: leader sequence
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 90 gaatctgctt ttgctactca aactaattct ggtggtttgg atgttgttgg tttgatatcg 120
 92 atggcc 126
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 96 <211> LENGTH: 522
 97 <212> TYPE: DNA
 98 <213> ORGANISM: Artificial Sequence
 100 <220> FEATURE:
 101 <223> OTHER INFORMATION: DNA encoding G-CSF copy 1 in the single chain G-CSF dimer
 103 <400> SEQUENCE: 4
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 106 gtttagaaaa ttcaaggta tgggtctgct ttgcaagaaa aattgtgtgc tacttataaa 120
 108 ttgtgtcatc cagaagaatt gttttgtt ggtcattctt tgggtatccc atgggctcca 180
 110 ttgtcttctt gtccatctca agctttgcaa ttggctgggtt gtttgtctca attgcattct 240
 112 gttttgtttt tggatcaagg tttgttgc当地 gctttggaaag gtatttctcc agaattgggt 300
 114 ccaactttgg atactttgca attggatgtt gctgattttg ctactactat ttggcaacaa 360
 116 atggaaagaat tgggtatggc tccagcttgc当地 caaccaactc aaggtgctat gccagcttt 420
 118 gtttctgctt ttcaagaag agctgggtgtt gttttgggtt ctttcattt gcaatctttt 480
 120 ttggaaagtttt cttatagagt tttgagacat ttggctcaac ca 522
 123 <210> SEQ ID NO: 5
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 125 <212> TYPE: DNA
 126 <213> ORGANISM: Artificial Sequence
 128 <220> FEATURE:
 129 <223> OTHER INFORMATION: DNA encoding G-CSF copy 2 in the single chain G-CSF dimer
 131 <400> SEQUENCE: 5
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 134 gtgcgtaaaaa tccaggcgca tggcgccggcc ctgcaggaaa aactgtgc当地 gacctataaa 120
 136 ctgtgccatc ctgaagaact gtcctgtta ggccatagct taggc当地 tccc gtggcgcc 180
 138 ctgagtagct gccccgagtca gcccctgc当地 ctggccggct gcctgagtc gttacatagt 240
 140 ggcttatttt tatatacaggc cttactgc当地 gcgttagaaag gcattagtc ggaactggc 300
 142 ccgaccctgg ataccttaca gttagatgtc gcggattttgc当地 ccaccacat ttggcagcag 360
 144 atggaaagaat taggc当地 tggcgc当地 cctgc当地 gttacatccc agggcgccat gcctgc当地 420
 146 gcgagtc当地 ttcagcgctg cggccggcc当地 gtgttagtgg ccagccatct gcagagcttt 480
 148 ctggaaagtga gttatcgatgtt gttacccat ctggccc当地 cttaatctag a 531
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 152 <211> LENGTH: 348
 153 <212> TYPE: PRT
 154 <213> ORGANISM: Artificial Sequence
 156 <220> FEATURE:
 157 <223> OTHER INFORMATION: Single chain G-CSF dimer polypeptide

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 165 Cys Leu Glu Gln Val Arg Lys Ile Gln Gly Asp Gly Ala Ala Leu Gln
 166 20 25 30
 169 Glu Lys Leu Cys Ala Thr Tyr Lys Leu Cys His Pro Glu Glu Leu Val
 170 35 40 45
 173 Leu Leu Gly His Ser Leu Gly Ile Pro Trp Ala Pro Leu Ser Ser Cys
 174 50 55 60
 177 Pro Ser Gln Ala Leu Gln Leu Ala Gly Cys Leu Ser Gln Leu His Ser
 178 65 70 75 80
 181 Gly Leu Phe Leu Tyr Gln Gly Leu Leu Gln Ala Leu Glu Gly Ile Ser
 182 85 90 95
 185 Pro Glu Leu Gly Pro Thr Leu Asp Thr Leu Gln Leu Asp Val Ala Asp
 186 100 105 110
 189 Phe Ala Thr Thr Ile Trp Gln Gln Met Glu Glu Leu Gly Met Ala Pro
 190 115 120 125
 193 Ala Leu Gln Pro Thr Gln Gly Ala Met Pro Ala Phe Ala Ser Ala Phe
 194 130 135 140
 197 Gln Arg Arg Ala Gly Gly Val Leu Val Ala Ser His Leu Gln Ser Phe
 198 145 150 155 160
 201 Leu Glu Val Ser Tyr Arg Val Leu Arg His Leu Ala Gln Pro Thr Pro
 202 165 170 175
 205 Leu Gly Pro Ala Ser Ser Leu Pro Gln Ser Phe Leu Leu Lys Cys Leu
 206 180 185 190
 209 Glu Gln Val Arg Lys Ile Gln Gly Asp Gly Ala Ala Leu Gln Glu Lys
 210 195 200 205
 213 Leu Cys Ala Thr Tyr Lys Leu Cys His Pro Glu Glu Leu Val Leu Leu
 214 210 215 220
 217 Gly His Ser Leu Gly Ile Pro Trp Ala Pro Leu Ser Ser Cys Pro Ser
 218 225 230 235 240
 221 Gln Ala Leu Gln Leu Ala Gly Cys Leu Ser Gln Leu His Ser Gly Leu
 222 245 250 255
 225 Phe Leu Tyr Gln Gly Leu Leu Gln Ala Leu Glu Gly Ile Ser Pro Glu
 226 260 265 270
 229 Leu Gly Pro Thr Leu Asp Thr Leu Gln Leu Asp Val Ala Asp Phe Ala
 230 275 280 285
 233 Thr Thr Ile Trp Gln Gln Met Glu Glu Leu Gly Met Ala Pro Ala Leu
 234 290 295 300
 237 Gln Pro Thr Gln Gly Ala Met Pro Ala Phe Ala Ser Ala Phe Gln Arg
 238 305 310 315 320
 241 Arg Ala Gly Gly Val Leu Val Ala Ser His Leu Gln Ser Phe Leu Glu
 242 325 330 335
 245 Val Ser Tyr Arg Val Leu Arg His Leu Ala Gln Pro
 246 340 345
 249 <210> SEQ ID NO: 7
 250 <211> LENGTH: 90
 251 <212> TYPE: DNA
 252 <213> ORGANISM: Homo sapiens

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255 atggctggac ctgccaccca gagccccatg aagctgatgg ccctgcagct gctgctgtgg      60
257 cacagtgcac tctggacagt gcaggaagcc                                90
260 <210> SEQ ID NO: 8
261 <211> LENGTH: 522
262 <212> TYPE: DNA
263 <213> ORGANISM: Artificial Sequence
265 <220> FEATURE:
266 <223> OTHER INFORMATION: DNA encoding single-chain G-CSF copy 1 (codon usage
optimized for
267           expression in CHO cells)
269 <400> SEQUENCE: 8
270 actccattgg gtccagcttc ttcttgcca caatctttt tgttgaaatg tttgaaacaa      60
272 gttagaaaaa ttcaaggta tggtgctgtc ttgcaagaaa aattgtgtgc tacttataaa     120
274 ttgtgtcatc cagaagaatt ggttttgtg ggtcattctt tgggtattcc atgggctcca     180
276 ttgtcttctt gtccatctca agctttgcaa ttggctgggtt gtttgcattca attgcattct 240
278 ggtttgtttt tgtatcaagg tttgtgcaa gcttggaaag gtatttctcc agaattgggt     300
280 ccaactttgg atactttgca attggatgtt gctgattttg ctactactat ttgcaacaa   360
282 atggaagaat tgggtatggc tccagctttg caaccaactc aaggtgctat gccagctttt 420
284 gcttctgctt ttcaaagaag agctgggtgtt gtttgggtt ctttcattt gcaatctttt 480
286 ttggaagttt cttatagagt tttgagacat ttggctcaac ca                         522
289 <210> SEQ ID NO: 9
290 <211> LENGTH: 6
291 <212> TYPE: PRT
292 <213> ORGANISM: Artificial Sequence
294 <220> FEATURE:
295 <223> OTHER INFORMATION: tag
297 <400> SEQUENCE: 9
299 His His His His His
300 1           5
303 <210> SEQ ID NO: 10
304 <211> LENGTH: 8
305 <212> TYPE: PRT
306 <213> ORGANISM: Artificial Sequence
308 <220> FEATURE:
309 <223> OTHER INFORMATION: tag
311 <400> SEQUENCE: 10
313 Met Lys His His His His His
314 1           5
317 <210> SEQ ID NO: 11
318 <211> LENGTH: 10
319 <212> TYPE: PRT
320 <213> ORGANISM: Artificial Sequence
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323 <223> OTHER INFORMATION: tag
325 <400> SEQUENCE: 11
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328 1           5           10
331 <210> SEQ ID NO: 12
332 <211> LENGTH: 14

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333 <212> TYPE: PRT
334 <213> ORGANISM: Artificial Sequence
336 <220> FEATURE:
337 <223> OTHER INFORMATION: tag
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342 1 5 10
345 <210> SEQ ID NO: 13
346 <211> LENGTH: 15
347 <212> TYPE: PRT
348 <213> ORGANISM: Artificial Sequence
350 <220> FEATURE:
351 <223> OTHER INFORMATION: tag
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356 1 5 10 15
359 <210> SEQ ID NO: 14
360 <211> LENGTH: 10
361 <212> TYPE: PRT
362 <213> ORGANISM: Artificial Sequence
364 <220> FEATURE:
365 <223> OTHER INFORMATION: tag
367 <400> SEQUENCE: 14
369 Glu Gln Lys Leu Ile Ser Glu Glu Asp Leu
370 1 5 10
373 <210> SEQ ID NO: 15
374 <211> LENGTH: 8
375 <212> TYPE: PRT
376 <213> ORGANISM: Artificial Sequence
378 <220> FEATURE:
379 <223> OTHER INFORMATION: tag
381 <400> SEQUENCE: 15
383 Asp Tyr Lys Asp Asp Asp Asp Lys
384 1 5
387 <210> SEQ ID NO: 16
388 <211> LENGTH: 9
389 <212> TYPE: PRT
390 <213> ORGANISM: Artificial Sequence
392 <220> FEATURE:
393 <223> OTHER INFORMATION: tag
395 <400> SEQUENCE: 16
397 Tyr Pro Tyr Asp Val Pro Asp Tyr Ala
398 1 5

VERIFICATION SUMMARY

PATENT APPLICATION: US/10/003,496

DATE: 03/13/2002

TIME: 10:30:08

Input Set : A:\PTO_MS.txt

Output Set: N:\CRF3\03132002\J003496.raw

L:10 M:270 C: Current Application Number differs, Replaced Current Application No

L:10 M:271 C: Current Filing Date differs, Replaced Current Filing Date